

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
5 January 2006 (05.01.2006)

PCT

(10) International Publication Number  
**WO 2006/001832 A2**

(51) International Patent Classification:  
*C12P 21/06* (2006.01)      *C07K 14/47* (2006.01)  
*C12N 9/00* (2006.01)

(74) Agents: QUINE, Jonathan, Alan et al.; Quine Intellectual Property Law Group, P.C., P.O. Box 458, Alameda, CA 94501 (US).

(21) International Application Number:  
**PCT/US2004/042535**

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:  
16 December 2004 (16.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(30) Priority Data:  
60/531,312      18 December 2003 (18.12.2003)      US  
60/548,761      26 February 2004 (26.02.2004)      US

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(71) Applicant (for all designated States except US): THE SCRIPPS RESEARCH INSTITUTE [US/US]; 10550 North Torrey Pines Road, La Jolla, CA 92037 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ZHANG, Zhiwen [CN/US]; 12751 Via Terceto, San Diego, CA 92130 (US). ALFONTA, Lital [IL/US]; Apartment 5316, 1665 Palmilla Drive, San Diego, CA 92122 (US). SCHULTZ, Peter [US/US]; 1650 La Jolla Ranch Road, La Jolla, CA 92037 (US).

WO 2006/001832 A2

(54) Title: SELECTIVE INCORPORATION OF 5-HYDROXYTRYPTOPHAN INTO PROTEINS IN MAMMALIAN CELLS

(57) Abstract: This invention provides methods and compositions for incorporation of an unnatural amino acid into a peptide using an orthogonal aminoacyl tRNA synthetase/tRNA pair. In particular, an orthogonal pair is provided to incorporate 5-hydroxy-L-tryptophan in a position encoded by an opal mutation.